Amendments to the Claims

Please amend Claims 1, 7, 13, and 19. The Claim Listing below will replace all prior versions of the claims in the application:

Claim Listing

1. (Currently Amended) A cryopump having a ducted integrated valve assembly, the valve assembly comprising:

a housing of the assembly having an interface to a cryopump;

a coaxial connection at the interface, connecting to an inner duct and an outer duct of the assembly;

an [[a]] exhaust valve connecting the outer duct to an exhaust; and

a purge valve connecting a pressurized gas source to the cryopump through the inner duct.

2. (Original) The cryopump of claim 1 wherein the exhaust valve is a rough valve connecting the outer duct of the assembly through the exhaust to a rough vacuum pump.

3. (Original) The cryopump of claim 1 wherein the exhaust valve is relief valve connecting the outer duct of the assembly through the exhaust to an exhaust stack.

4. (Original) The cryopump of claim 3 further comprising a rough valve connecting the outer duct of the assembly through an exhaust to a rough vacuum pump.

5. (Original) The cryopump of claim 3 further comprising an exhaust purge valve connecting a pressurized gas source to the exhaust stack.

6. (Original) The cryopump of claim 1 further comprising a pressure gauge in fluid communication with the outer duct of the assembly.

7. (Currently Amended) A cryopump having a ducted integrated valve assembly, the valve assembly comprising:

a housing of the assembly having an interface to a cryopump;

a coaxial connection at the interface, connecting to an inner duct and an outer duct of the assembly;

an exhaust valve connecting the outer duct to an exhaust; and

a purge valve connecting a pressurized gas source to the cryopump through the inner duct ~~The cryopump of claim 1~~ wherein the pressurized gas source connects to control the biasing mechanisms of the purge valve and the exhaust valve.

8. (Original) The cryopump of claim 7 further comprising actuators to control the biasing of the purge valve and the exhaust valve.

9. (Original) The cryopump of claim 1 wherein the pressurized gas source is a nitrogen gas source.

10. (Original) The cryopump of claim 1 further comprising a pressure gauge in fluid communication with the outer duct.

11. (Original) A cryopump having a ducted integrated valve assembly, the valve assembly comprising:

a housing of the assembly having an interface to a cryopump;

a coaxial connection at the interface, connecting to an inner duct and an outer duct of the assembly;

a rough valve connecting the outer duct of the assembly to a rough vacuum pump;

a relief valve connecting the outer duct of the assembly to an exhaust stack;

an exhaust purge valve connecting a nitrogen gas source to the exhaust stack;

a purge valve connecting the nitrogen gas source to the cryopump through the inner duct;

actuators to control the biasing of the purge valve, rough valve and the exhaust purge valve; and

a pressure gauge in fluid communication with the outer duct.

12. (Original) A cryopump having a ducted integrated valve assembly, the valve assembly comprising:

a housing having a single fluid duct;

a rough valve connecting the duct to a rough vacuum pump, and

a relief valve connecting the duct to an exhaust stack.

13. (Currently Amended) A ducted valve assembly for providing an integrated cryopump valve comprising:

a housing of the assembly having an interface to a cryopump;

a coaxial connection at the interface, connecting to an inner duct and an outer duct of the assembly;

an [[a]] exhaust valve connecting the outer duct to an exhaust; and

a purge valve connecting a pressurized gas source to the cryopump through the inner duct.

14. (Original) The ducted valve assembly of claim 13 wherein the exhaust valve is a rough valve connecting the outer duct of the assembly through the exhaust to a rough vacuum pump.

15. (Original) The ducted valve assembly of claim 13 wherein the exhaust valve is relief valve connecting the outer duct of the assembly through the exhaust to an exhaust stack.

16. (Original) The ducted valve assembly of claim 15 further comprising a rough valve connecting the outer duct of the assembly through an exhaust to a rough vacuum pump.

17. (Original) The ducted valve assembly of claim 15 further comprising an exhaust purge valve connecting a pressurized gas source to the exhaust stack.

18. (Original) The ducted valve assembly of claim 13 further comprising a pressure gauge in fluid communication with the outer duct of the assembly.

19. (Currently Amended) A ducted valve assembly for providing an integrated cryopump valve comprising:

a housing of the assembly having an interface to a cryopump;

a coaxial connection at the interface, connecting to an inner duct and an outer duct of the assembly;

a exhaust valve connecting the outer duct to an exhaust; and

a purge valve connecting a pressurized gas source to the cryopump through the inner duct ~~The ducted valve assembly of claim 13~~ wherein the pressurized gas source connects to control the biasing mechanisms of the purge valve and the exhaust valve.

20. (Original) The ducted valve assembly of claim 19 further comprising actuators to control the biasing of the purge valve and the exhaust valve.

21. (Original) The ducted valve assembly of claim 13 wherein the pressurized gas source is a nitrogen gas source.

22. (Original) The ducted valve assembly of claim 13 further comprising a pressure gauge in fluid communication with the outer duct

23. (Original) A ducted valve assembly for providing an integrated cryopump valve comprising:

a housing of the assembly having an interface to a cryopump;

a coaxial connection at the interface, connecting to an inner duct and an outer duct of the assembly;

a rough valve connecting the outer duct of the assembly to a rough vacuum pump;

a relief valve connecting the outer duct of the assembly to an exhaust stack;

an exhaust purge valve connecting a nitrogen gas source to the exhaust stack;

a purge valve connecting the nitrogen gas source to the cryopump through the inner duct;

actuators to control the biasing of the purge valve, rough valve and the exhaust purge valve; and

a pressure gauge in fluid communication with the outer duct.